

Global View

GPS Spared . . . for Now FCC Rules on UWB Use

Vigorous lobbying by civil and military agencies appears to have thwarted — temporarily, at least — proposals to allow unlicensed ultra-wideband (UWB) devices to operate in the GPS frequencies. But GPS advocates remain concerned that further FCC actions in the coming months could spread UWB into GPS bands.

On February 14, the Federal Communications Commission (FCC) issued a first report and order that permits the marketing and operation of certain types of products incorporating UWB. Use of the devices must remain above 1.99 GHz or below 960 MHz, depending on the specific application.

In comments on the FCC action, Deputy Assistant Secretary of Defense for Spectrum and C3 Policy Steven Price said, "The Department supports FCC's reasoned and bal-

anced approach of protecting critical national security systems from frequency interference while allowing commercial deployment of new technologies." In a letter to Commerce Secretary Donald Evans late last year, Deputy Secretary of Defense Paul Wolfowitz expressed his agency's "deep concern" about the effect of uncontrolled UWB proliferation on GPS and other military systems.

UWB devices operate by employing very narrow or short-duration pulses that result in the use of very large transmission bandwidths. Anticipated uses include a variety of ground- and wall-penetrating imaging systems for public safety purposes, vehicular radar systems, and communications and measurement techniques, such as high-speed home and business networking devices



as well as storage tank measurement devices.

Proponents for existing radio frequency users worry that the UWB signals will interfere with their systems, either directly or indirectly by raising the overall thermal noise floor. A series of laboratory and field tests, conducted on behalf of the National Telecommunications and Information Administration (NTIA) during the past year, indicated that problems could arise for GPS and other communications systems.

Due to the absence of production UWB equipment available and associated lack of operational experience with the impact of UWB on other radio services,

the FCC said it chose "to err on the side of conservatism" in setting emission limits. However, the commission intends to review the standards for UWB devices within the next 6 to 12 months and issue a further notice of proposed rule making "to explore more flexible standards and address the operation of additional types of UWB operations and technology."

That intention prompted the U.S. GPS Industry Council to urge continued vigilance on behalf of GPS and says it will "continue to follow this proceeding . . . to ensure that safety and national security services are protected."

Although GPS escaped in the first round, other transportation-related safety-of-life systems, including aviation VORs, terminal area doppler radar, a variety of communications datalinks, and microwave landing systems do fall inside the bands opened up to UWB use. 🌐